RMT
Integrated Environmental Solutions

2025 East Beltline Ave. SE
Suite 402
Grand Rapids, MI 49546
Telephone: 616-975-5415
Fax: 616-975-1098

November 5, 2004

Mr. Anthony Cinque
Case manager
New Jersey Department of Environmental Protection
Bureau of Federal Case Management
Division of Responsible Site Party Remediation
CN028
Trenton, NJ 08625

Subject: **L.E. Carpenter & Company, Wharton New Jersey, NJD002168748**
Source Reduction Remedial Action Workplan Comment Response

Dear Anthony:

As I stated on our conference call on November 4, 2004, with both the New Jersey Department of Environmental Protection (NJDEP) and the United States Environmental Protection Agency (USEPA), please find attached a response to both NJDEP and USEPA comments dated October 20, 2004 and October 19, 2004, respectively regarding the document entitled *Response to Regulatory Comments on the Remedial Action Work Plan (RAWP)* (RMT, September 2004).

I would like to emphasize the two critical issues raised during our discussions so all parties involved are in full agreement with regards to the resolution reached for each issue.

1. LNAPL Post Excavation Confirmatory Sampling: RMT understands that NJDEP, with agreement provided by USEPA, will issue a variance from the confirmatory sampling requirements outlined in the "Technical Requirements for Site Remediation" (N.J.A.C 7:26E-1 et seq.). This variance will apply to confirmatory sampling associated with the smear zone (LNAPL) excavation only, in lieu of the installation of a more dense preconstruction boring protocol to more accurately define the vertical extent of the smear zone. We understand the variance will be based on accomplishment of a survey-controlled slurry excavation to a target depth of 622 ft AMSL, which is the historic low water table elevation. This excavation depth may be modified based on the results of the 12 pre-construction borings described in the RAWP. LEC will work closely with NJDEP in reporting the results of the pre-construction borings, as well as general progress as the RAWP is being implemented.

2. Monitoring Well Network: RMT understands that both NJDEP and USEPA have approved the abandonment of all groundwater monitoring structures (*i.e.*, monitoring wells, well points, EFR wells, caisson wells etc.) as outlined in Table 7 of the RAWP. These structures will be abandoned in 4th quarter 2004 (4Q04) in preparation for the source reduction construction project. As outlined in the RAWP, the response to regulatory comments on the RAWP, and this document, RMT, on behalf of LEC will prepare a Post Remedial Monitoring

Plan (PRMP) within about 45 days of completion of the source reduction action for regulatory review, discussion and comment. RMT plans to advance the preconstruction borings to more accurately define the smear zone vertical extent during the week of November 8, 2004. RMT has allotted a total of three days on-site with a MiniSonic drill rig to advance a minimum of twelve locations as originally proposed on RAWP Figure 31. Information regarding this investigation will be provided to NJDEP and USEPA once complete. Currently we anticipate an increase in preconstruction boring locations based on the discussions held during our November 4, 2004 conference call, and the expansion of the proposed excavation footprint as a result of the site conditions realized during 2Q04 monitoring activities (*i.e.*, the product seep areas). Comment responses relating to all other issues raised in the two regulatory response letters are outlined in the following pages.

On behalf of LEC, RMT would like to thank NJDEP and USEPA for their willingness to negotiate a compromise regarding the two critical issues outlined above. We look forward to implementing the source reduction construction project outlined in the RAWP, and continuing the productive relationship developed over the past few years.

Sincerely,

RMT, Inc., Michigan

Nicholas J. Clevett

Nicholas J. Clevett
Project Manager

Attachments: Response the NJDEP and USEPA Comments
Confirmatory PCB Sample Plan Location (RAWP Figure 24, Rev. 1)
Proposed Verification Samples for Lead Soils Excavations (RAWP Figure 22, Rev. 1)

cc: Stephen Cipot, USEPA
Cris Anderson, LEC
Jim Lewis, LEC
Jim Dexter, RMT
Dan Oman, RMT
Drew Diefendorf, RMT
Walter Kurzeja, RMT
Central Files

L.E. CARPENTER SOURCE REDUCTION REMEDIAL ACTION WORK PLAN (RAWP)

Response to NJDEP Comment Letter Dated October 20, 2004 and USEPA Comment Letter Date October 19, 2004

This Response has been prepared to address comments received from USEPA and NJDEP regarding LEC's original Comment Response Letter dated September 14, 2004. Some of LEC's further responses outlined below consolidate the comments from USEPA and NJDEP where they are of a similar nature.

General Comments and Comments Regarding Expanded Excavation and Potential Impacts to the Rockaway River (regarding pages 8 and 10 of 10)

Excavation Footprint - The proposed excavation expansion to the edge of the Rockaway River (see Appendix G in the 2nd quarterly report) encompasses the area observed to be impacted by overland flow of seepage water with a sheen of product that appeared to be emanating from the edge of the free product mass as a function of spring-time high groundwater levels. The expansion is proposed in order to remove as much source material as practical and at the same time provide the greatest chance of success for the proposed Monitored Natural Attenuation (MNA) remedy for groundwater (via Focused Feasibility Study [FFS] preparation, ROD amendment, and subsequent long term monitoring). To date, there is no evidence that the free product layer extends either to the drainage ditch or the river (see Figure 3 in all previous RMT quarterly monitoring reports). Data that support this include previous samples of surface water and groundwater-surface water interface samples collected from the PDB samplers we installed at the request of NJDEP. These data show that both LNAPL free product and LNAPL constituents dissolved in groundwater have limited subsurface mobility and do not migrate significantly into the river or ditch as a function of groundwater infiltration.

Excavation Depth - The area known to contain mobile free product, including that area in the vicinity of MW-3, will have been excavated before the footprint of the excavation expands towards the river. This area as originally shown on Figure 26 of the RAWP will be excavated to elevation 622. As noted above, current observations indicate that only a surficial soil layer of sheen likely exists outside this zone and will not warrant excavation below the water table. Given removal of the majority of the source material, areas where limited impact exists (*i.e.*, a surface sheen only) should rapidly attenuate naturally once the soils at and above the water table have been removed. LEC plans to evaluate post-remediation conditions as discussed below and during our November 4, 2004 phone conference.

Direct Impacts to River -Interim engineering controls to prevent further potential discharge of product into the Rockaway River are already in place and include the emergency response activities LEC implemented immediately upon discovery (May 2004), and the biweekly site visits currently in place to manage (*i.e.*, flip, change out) the absorbent materials (*i.e.*, booms and sweeps) placed in the

two product seep areas noted during the 2Q04 monitoring event. Spent materials are containerized and taken off-site for disposal every 90 days. As stated in the both the RAWP and the Response to RAWP Comments, LEC will submit a Post Remediation Monitoring Plan (PRMP) within about 45 days of completion of the source reduction action. The PRMP will address surface water and sediment related monitoring issues. However, the only significant area of excavation adjacent to the river will be the PCB impacted area located on the Wharton Enterprise property to the east. The main body of lead- and LNAPL-impacted soil excavation is some distance from the River. Excavation in both of theses areas will be conducted in accordance with the approved Soil Erosion and Sediment Control Plan to eliminate potential impacts to the River.

REGARDING POST-EXCAVATION FOOT/BASE LNAPL SAMPLES (COMMENTS ON PAGES 3 AND 4 OF 10)

The following clarify the intent and extent of LNAPL excavation and LEC's reasoning behind the lack of need to perform foot/base sampling:

- LEC again re-iterates that every molecule of free product impacted soils will not be removed. However, it is not true that a "worst case" result of the source reduction specified in the RAWP would result in leaving behind 5,000 gallons of free product. Please note that "free product impacted soils" is distinctly different than "recoverable free product"; recoverable free product is defined as liquid-phase product that can freely migrate through the porosity of soil particles and enter a groundwater monitoring well or extraction trench and accumulate to a measurable thicknesses greater than or equal to 0.01 feet, whereas free product impacted soils will predominantly consist of soil particles.
- LEC cannot predict the exact amount of free product constituents that will be removed via the proposed source reduction. However, as we have discussed with NJDEP and USEPA at past meetings, and as described in the RAWP on page 3-6 and 3-7, the conceptual free product source reduction as outlined in our NJDEP and USEPA approved March 2002 Conceptual Free Product Remediation Strategy report **removes the bulk of both "recoverable" (mobile free product liquid) *and* "non-recoverable" (bound up in solids) LNAPL constituents**. In other words, as we discussed during our November 4 conference call, the concept is to remove both the bulk of that portion of LNAPL constituents available for subsurface flow into a well as free-phase product (only a portion of which is recoverable via in-situ extraction methods) as well as the bulk of LNAPL constituents that is not recoverable via in-situ methods. This is the reason that the RAWP approach is the most robust method available for use at LEC given the current site setting.
- The Impermix monolith is not a post-excavation replacement for the *in situ* soils. The Impermix slurry is required to hydraulically stabilize the excavation in lieu of the ability to manage groundwater, and to aid in effective removal of the LNAPL-impacted soils existing in the saturated zone (*i.e.*, capillary fringe to 622 ft MSL). The amended slurry is designed to set-up during a relatively short period of time after the excavations have been completed to a solid with a relatively low permeability (less than about 10^{-5} cm/s), which will further assure that the minimal remaining disseminated LNAPL constituents will not migrate in the subsurface. Once

excavation below the water table commences, sampling of any soils below the emplaced Impermix zone of excavation will not be possible because a continuous head of impermix slurry will be maintained in each excavation cell, and soils that are actually representative cannot be collected from depths below the impermix due to the need to drag these samples through the very slurry that allows excavation of soils below the water table. In other words, any post-excavation samples will necessarily be after-the-fact once the monolith is already in place. Since the monolith will never reach the density or strength of a "concrete" monolith, the post-excavation monitoring system discussed above will be able to adequately ascertain whether any significant source material was left behind, as well as serve to provide data that can be used to implement the approved MNA work plan.

- The planned depth of excavation as explained in the RAWP is the historical low groundwater level (elevation 622), not the "top of the smear zone." By definition, LNAPL floats on top of the water table and should not occur below the water's lowest level. Therefore, the planned excavation will be through the smear zone (to the bottom of the smear zone that will be defined in greater detail during the pre-construction borings outlined in the RAWP). As described above and in the RAWP, the excavation will effectively remove both the "recoverable" and the bulk of "non-recoverable" LNAPL phases.
- As an added measure of conservatism in removing as much "non-recoverable" LNAPL fraction as possible, pre-excavation soil borings will be used to evaluate in more detail the actual depth of the smear zone, particularly in the center hot spots of the LNAPL core where some depression of the historic water table may have occurred. Extended excavation below elevation 622 in those areas will be performed as necessary.
- Following the extensive characterization work LEC has completed to date, it should be clear at this juncture that the proposed source reduction is by far the most robust approach available in comparison to other in-situ types of remediation schemes in that this method will remove the greatest volume of LNAPL from the smear zone.
- NJDEP also indicates that should the proposed source reduction fail to remove all of the product, and then LEC will need to implement additional remedial measures. As can be seen by the above description, LEC intends to remove enough volume to prevent free-phase product from being able to accumulate in post-excavation monitoring wells (free-product removal is the primary intent of this "source reduction" as mandated in the ROD). However, in the unlikely event that free product accumulates in any post-excavation monitoring well, LEC intends to augment the existing source reduction with appropriate remedial measures deemed to be feasible after the bulk of the source mass has been removed. These measures will be subject to regulatory evaluation and approval prior to site implementation.

As outlined in the cover letter, RMT understands that no LNAPL confirmatory sampling will be required and NJDEP will be issuing a variance from the confirmatory sampling requirements outlined in the "Technical Requirements for Site Remediation" (N.J.A.C 7:26E-1 et seq.).

REGARDING LEAD AND PCB CONFIRMATORY SAMPLING SPACING (COMMENTS ON PAGE 3 OF 10)

Proposed Additional Confirmatory Sample Locations - LEC proposes bottom and sidewall excavation verification samples per N.J.A.C. 7:26E. The attached revised RAWP Figure 22 shows the proposed post-excavation sample locations that will be used to assure adequate removal of lead and PCB soils. This sampling plan includes sidewall sampling at a lineal wall interval of 30 feet and floor sampling at one sample per 900 square feet and which is equivalent to a grid spacing of 30 feet.

PCB Confirmatory Sampling - LEC proposes bottom and sidewall excavation verification samples per N.J.A.C. 7:26E with respect to the PCB soil removal and we have provided those locations on the attached revision to RAWP Figure 24. This sampling plan includes sidewall sampling at a lineal wall interval of 30 feet and floor sampling at one sample per 900 square feet and which is equivalent to a grid spacing of 30 feet.

PCB SOIL CLEANUP CRITERIA (COMMENTS ON PAGE 4 OF 10)

As described in the RAWP and Response to RAWP Comments (RMT, September 2004), the land use for the Wharton Enterprises property is not expected to change. This property is not owned by LEC, but is owned by Wharton Enterprises. Regardless, the planned excavation for PCBs presented in the RAWP encompasses all known detections of PCB (including those detections above a concentration of 0.49 ppb).

In the second paragraph of USEPA's comments under this item regarding "subsequent" moving of PCB-impacted soils, LEC is not aware that any excavation or moving of soils in the PCB-defined area has occurred. To assure that the PCB-impacted soil area is fully defined, LEC plans to conduct additional soil sampling for PCBs on the Wharton Enterprises parcel prior to initiation of soil excavation in that area.

CLEAN FILL REQUIREMENTS (COMMENTS ON PAGE 4 OF 10)

Extensive RI data have been previously documented in the Extent of Lead Report to indicate no metals contaminants have been found above cleanup criteria except in those places where lead exceedances have occurred. Thus, analysis for lead should be sufficient to assure that "clean" soils excavated below the lead-impacted zone and above the smear zone are suitable for use as backfill.

POST REMEDIAL MONITORING NETWORK (COMMENTS ON PAGE 6 OF 10)

As stated in the RAWP LEC will submit a Post Remedial Monitoring Plan (PRMP) within about 45 days of completion of the source reduction action. To adequately monitor the effectiveness of the action, the network layout will be robust enough to assure that impacts of any potentially significant residual source-related soils will be detectable.

WETLANDS MITIGATION PLAN (COMMENTS ON PAGE 7 OF 10)

The Wetlands Mitigation Plan was submitted to NJDEP (Case Manager and the Land Use Regulation Program) for review on October 15, 2004.

REGARDING PILOT TEST EXCAVATION OF UST (COMMENTS ON PAGE 8 OF 10)

The UST removed earlier this year was located as shown on Figure 9 of the RAWP (northeast corner of TP-1), and was described as such in the RAWP text. As shown in the RAWP, the former UST location is encompassed by the proposed source reduction excavation (Figure 26), and is underlain by LNAPL smear zone. The UST did not contain 980 gallons of pure product as stated in the USEPA comments, rather it contained water which tested to show a solubilized fraction of organic compounds related to the site. Analytical documentation of UST water tests were included with LEC's September 22, 2004 Comment Response Letter. The UST had no observable holes or piping and was situated above the water table, thereby exhibiting the integrity of the tank. The UST appears to be an unlikely source of LNAPL that contributed to the current mass of free product in that area. Nevertheless, LEC proposes to test the soils underlying the former UST for VOCs and SVOCs during the lead-excavation portion of the remediation to assure that any impacted soils that may occur between the invert of the former UST and the water table will be excavated and disposed of appropriately.

REGARDING THE ROCKAWAY RIVER PETROLEUM DISCHARGE (NJDEP COMMENTS)

Details pertaining to the recently discovered petroleum releases to the ditch and the river are provided on page 5-1, Section 5 of the Quarterly Monitoring report 2nd quarter 2004 report. As described in that report, emergency response actions were immediately implemented to prevent the overland runoff of LNAPL product sheen, originating from the land-surface seepage fronts, from migrating into the ditch and river. These actions have been implemented on a continuous basis since the initial discovery, and have been successfully preventing migration of free product sheen into the river and ditch. As stated in that report, the only long-term solution to this situation is to implement the source reduction which will eliminate the occurrence of free product and thus eliminate any further need for preventing its migration via overland flow of free product sheen atop seepage water into the nearby surface water bodies.

LEC recommends that NJDEP immediately provide approval to move forward with implementing the RAWP. Currently, the window of opportunity to implement the RAWP is quickly passing by. It is important, as stated in the RAWP, that this remediation take place during the winter months. Sufficient time must be planned to allow completion of the RAWP implementation before the weather begins warming up again in the spring of 2005.

ADDITIONAL ISSUES FROM NJDEP REVIEW OF THE 2ND QUARTER 2004 MONITORING REPORT

As agreed during the November 4 phone conference, LEC intends on properly abandoning all wells, including MW-11D(R,) as specified in the RAWP. LEC will specify the proposed number, depth, and location of post-remediation monitoring well network in the PRMP which will be submitted to NJDEP for approval prior to installation of the post remediation well network.

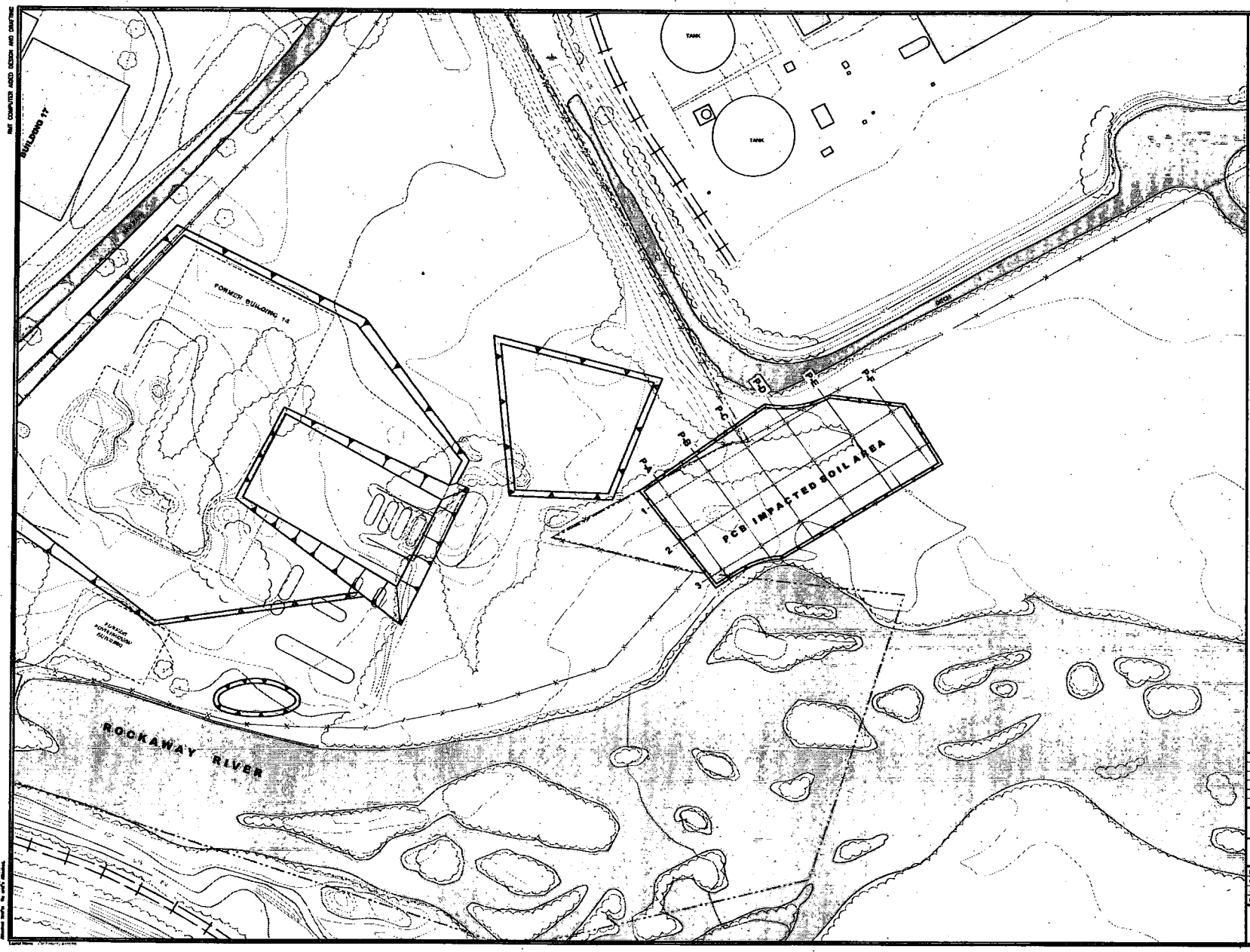
MW-19-10 was located properly, at the location previously approved by NJDEP. The 2nd quarterly report does not state that the well "may not be located properly." We assume NJDEP means that based on the new groundwater elevation data from that well it appears that the well is not immediately downgradient from the leading edge of groundwater contamination. Therefore, LEC agrees with NJDEP on the need for an additional well, and will install a well approximately 50 feet east of MW-19-8 in order to better define the shallow flow and provide a sampling point that will have the best chance given current information to be located directly downgradient from the leading edge of the groundwater contamination. The well will be installed adjacent to the regional sewer, which because of its construction within coarse granular backfill material may act as a preferential pathway to contaminant migration.

Surface water sampling was conducted in the past according to the approved site sampling plan, including samples of the ditch water collected during the 3rd quarterly sampling event. Specifications (location, sampling methodology, etc.) for future sampling of surface waters will be incorporated in the PRMP.

Appendix G calls for an expansion of the excavation footprint in order to capture those portions of the site that have been effected by overland runoff of surface sheen from seeps at the leading edges of free product that occur on the LEC property. As discussed in more detail above, engineering controls to protect the river during the remediation have been incorporated into the Soil Erosion and Sediment Control Plan.

Implementation of the RAWP source reduction excavations, which will encompass the screened intervals within which the department has requested LEC "profile" sample, is scheduled to begin within the next 30 days. As described in our previous responses to this comment, the groundwater constituents of concern (COC's) at this site are LNAPL constituents. It is well known that these constituents are limited vertically due to their hydrophobic nature, density, and other on-site hydraulic properties such as the strong upward vertical gradient. The vertical distribution of the LEC COC's has been adequately defined as a part of numerous separate remedial investigations and during ongoing groundwater monitoring over the long history of this project. Nevertheless, LEC anticipates that post-excavation vertical characterization will be required, and will therefore be included as a component of the PRMP that will be submitted for NJDEP review and approval.

CONFIRMATORY PCB SAMPLE PLAN LOCATION
(RAWP FIGURE 24, REV. 1)



RMT COMPUTER AIDED DESIGN AND DRAFTING

LEGEND

- APPROXIMATE PROPERTY LINE
- FENCE LINE
- TREES
- RAILROAD TRACKS

PCB SAMPLE AND EXAMPLE NUMBER

- CONFIRMATORY FLOOR SAMPLE LOCATION AND NUMBER
- CONFIRMATORY SIDEWALL SAMPLE LOCATION AND NUMBER

P - A - 1 EXAMPLE CONFIRMATORY SAMPLE NUMBER

- ROW A
- COLUMN D
- AREA A1

NOTES

1. BASE MAP DEVELOPED FROM TOPOGRAPHIC SURVEY PROVIDED BY JAMES M. STEWART, INC. LAND SURVEYORS, DRAWING NO 2793-93.DWG, DATED 02-14-02.

N

0 30' 60' 90' 120'

SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D.
5.				
4.				
3.				
2.				
1.	SA	NOV. 2004	REVISED SAMPLING GRID	JJD

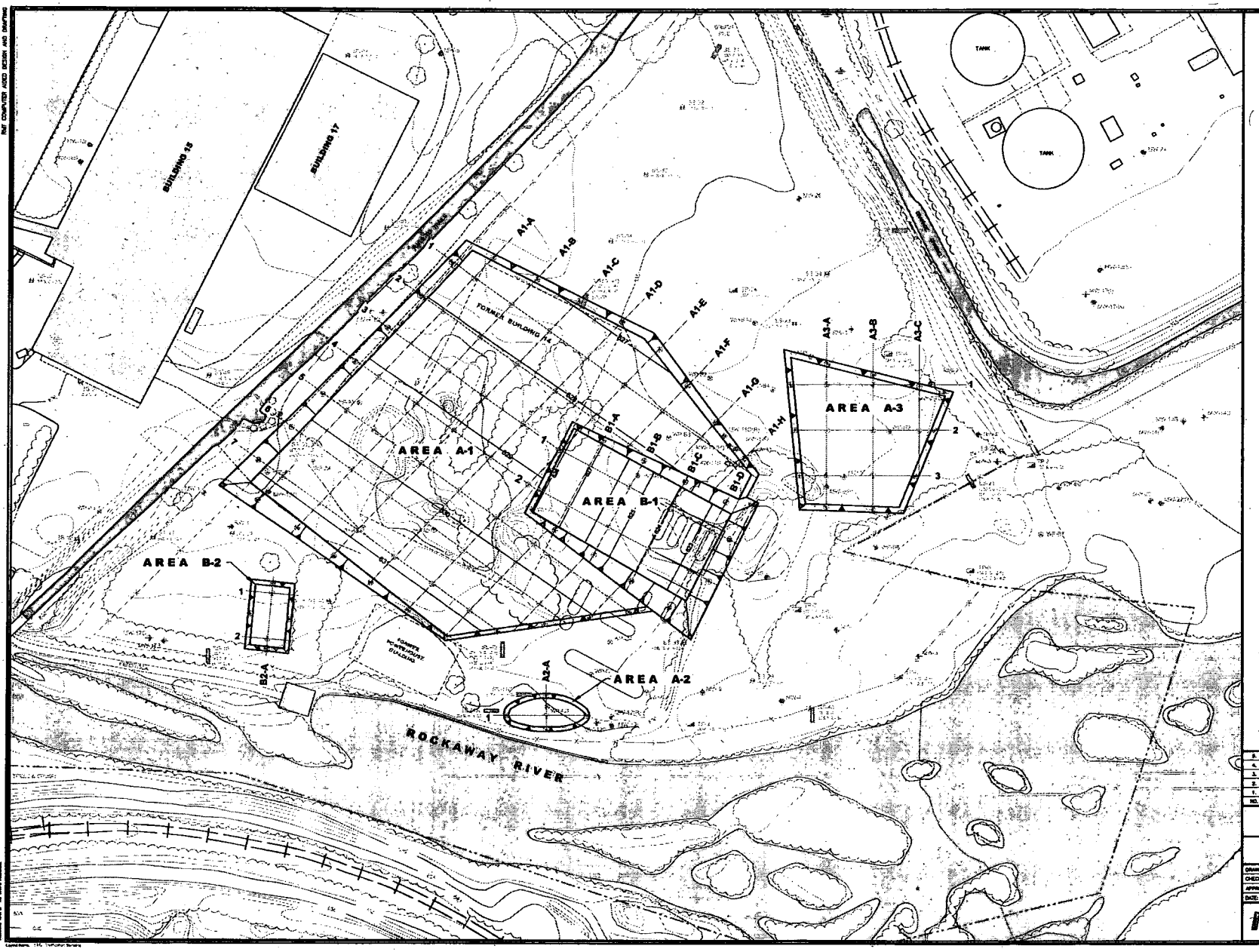
L.E. CARPENTER
WHARTON, NEW JERSEY

CONFIRMATORY PCB SAMPLING PLAN

DRAWN BY:	SA	SCALE:	PROJECT NO. 6527.02
CHECKED BY:	DD,JJD	SHOWN	FILE NO. 6527GT4.DWG
APPROVED BY:	MC	DATE PRINTED:	**FIGURE 24**
DATE:	OCTOBER 2004		

RMT INC.
1143 HERSHEY DRIVE, SUITE B
ANN ARBOR, MI 48105-2337
PHONE: 313-971-7080
FAX: 313-971-9022

PROPOSED VERIFICATION SAMPLES FOR LEAD SOILS EXCAVATIONS
(RAWP FIGURE 22, REV. 1)



LEGEND

- APPROXIMATE PROPERTY LINE
- FENCE LINE
- TREES
- RAILROAD TRACKS
- MONITORING WELL LOCATION AND NUMBER
- SHALLOW GROUNDWATER MONITORING WELL LOCATION AND NUMBER
- WELL POINT LOCATION AND NUMBER
- WESTON TEST PIT LEAD SAMPLES FROM ABOUT 1980-1982
- SURFACE SOIL LEAD SAMPLE (RMT, 2001)
- SURFACE SOIL AND TEST PIT LEAD SAMPLE (RMT, 2001)
- ppm LEAD CONCENTRATION, DEPTH in FEET

CONFIRMATORY SAMPLE AND EXAMPLE NUMBER

- CONFIRMATORY FLOOR SAMPLE LOCATION AND NUMBER
- CONFIRMATORY SIDEWALL SAMPLE LOCATION AND NUMBER

A1 - D - 4 EXAMPLE CONFIRMATORY SAMPLE NUMBER
- ROW 4
- COLUMN D
- AREA A1

NOTES

1. BASE MAP DEVELOPED FROM TOPOGRAPHIC SURVEY PROVIDED BY JAMES M. STEWART, INC. LAND SURVEYORS, DRAWING NO 2793-KLOWG, DATED 02-14-02

N

0 30 60 90 120
SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D.
5.				
4.				
3.				
2.				
1.	S.A.	NOV. 2004	REVISED SAMPLING GRID	JJD

I.E. CARPENTER
WHARTON, NEW JERSEY

PROPOSED VERIFICATION SAMPLES FOR LEAD SOILS EXCAVATIONS

DRAWN BY:	S.A.	SCALE:	PROJECT NO. 6527.02
CHECKED BY:	SO, JJD	SHOWN	FILE NO. 66270273.DWG
APPROVED BY:	MC	DATE PRINTED:	**FIGURE 22**
DATE:	OCTOBER 2004		

RMT, INC.
1143 HIGHLAND DRIVE, SUITE B
ANN ARBOR, MI. 48108-5237
PHONE: 313-971-7080
FAX: 313-971-9022

RMT COMPUTER AIDED DESIGN AND DRAFTING